

COVID-19 Pandemic Associated Misinterpretation of Somatic Sensations: A Model for Mind-Body Interaction

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In December 2019, the first cases of pneumonia of unknown origin were reported in Wuhan, China. Soon after the virus was identified, and currently has been named as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (1). Following the first case reports in Wuhan, China; virus spread to the whole world, the World Health Organization (WHO) defined it as pandemic and declared public health emergency worldwide (2). The disease caused by the SARS-CoV-2 is COVID-19 and the estimated mortality rate of the disease was approximately 3% mostly due to pneumonia, however, depending on the healthcare capacity and the sociodemographic profile of the countries (3). Currently, the disease threatens the lives of everybody in the world; resulting in individual and community-level anxiety and fear. In this regard, another issue is that according to the recent reports, most of the infected patients were either asymptomatic or mildly symptomatic. These mild symptoms were reported as cough, fever, sore throat, shortness of breath, and fatigue (3). These common symptoms could be related to the other diseases such as the common cold or seasonal flu that mimics COVID-19, and in turn, increases anxiety. According to our clinical experiences and sharing opinions with our colleagues, we claim that at least some of these symptoms could be explained by the somatosensorial amplification; and could serve a candidate model for mind-body interaction.

The mind-body interaction model explains bidirectional interactions between somatic disease and mental processes. As we know, mind-body interaction is associated with almost every medical condition such as chronic pain, hypertension, diabetes mellitus, cancer. Now, the majority of the clinicians have been facing such patients presenting with these non-specific symptoms such as sore throat with the doubt that whether he or she has been infected with the virus. Illness anxiety disorder (formerly hypochondriasis) is defined in DSM-5 as worrying about that one has a serious illness or believing that normal bodily sensations or minor symptoms are signs of a serious illness (4). Probably the perceived stress and heightened awareness about the disease results in hyper-focusing on bodily sensations such as a sensation of sore throat without any objective evidence (5). The thought that 'If I feel itching in my throat, I might have COVID-19' generates an anxiety loop, and increasing anxiety, in turn, leads to heightened hyper-focusing resulting in misinterpretation of somatic sensations as a vicious cycle. The neurobiology of the illness anxiety disorder is poorly understood, however neural correlates such as hyperactivity in angular gyrus, alterations in insular, and anterior cingulate cortex activity have been suggested; brain regions which are assumed to be associated with introspective somatic representations (6,7).

Several predictors of illness anxiety in outbreaks are; overestimating the threat, individual's proneness to anxiety, and media coverage of the pandemic (8,9). Informing community is an essential feature to control pandemic. However, decreasing anxiety should be performed responsibly, at the same time by increasing the awareness of the protective measures. Previous research on the Zika virus outbreak concluded that greater knowledge of the disease was positively correlated with anxiety (10). However, we observe that this could even be reverse with the help of well-education.

The pandemic of COVID-19 could be viewed as one of the biggest tragedies, however, it could also be considered as a tool to explain most of the mysterious disorders or conditions human beings are suffering such as illness anxiety and heightened hyper-focusing and misinterpretation of bodily sensations. Research should be conducted on how to balance media-related heightened perceived stress and well-education of individuals on one side; and on the other side which brain mechanisms are associated with illness anxiety and how to manage these symptoms. On the other hand, individuals with hypochondriac symptoms related to the SARS-CoV-2 infection increase the burden of the health system in these extraordinary days, and these individuals are under the risk of being infected from

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hospitals. We have few recommendations to the clinicians as follows: sparing adequate time for these individuals, listening to their complaints, giving understandable and practical information about this infection, and referring complex cases to psychiatric consultation are necessary measures.

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